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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,682	01/29/2002	Mario E. Bran	VERTE.076A	5570
40440	7590	04/18/2006	EXAMINER	
WOLF, BLOCK, SCHORR & SOLIS-COHEN LLP 1650 ARCH STREET, 22ND FLOOR PHILADELPHIA, PA 19103-2334			STINSON, FRANKIE L	
			ART UNIT	PAPER NUMBER

1746

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/059,682

Applicant(s)

BRAN, MARIO E.

Examiner

FRANKIE L. STINSON

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,4-6,9,10,13,15-19 and 27-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,4-6,9 and 10 is/are allowed.
- 6) ☒ Claim(s) 13,15,16,19,27 and 30-32 is/are rejected.
- 7) ☒ Claim(s) 17,18,28 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. The indicated allowability of claims 13, 15, 16 and 19 is withdrawn in view of the newly discovered reference(s) to Starov et al., Denslow et al. and Shoh. Rejections based on the newly cited reference(s) follow.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

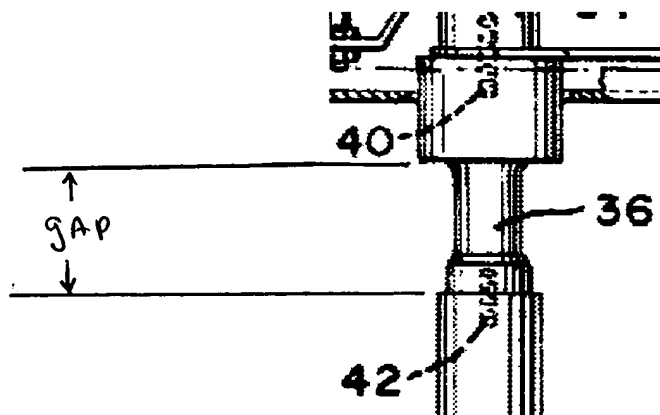
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13, 15, 19, 27 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Lauerhaas et al. (U. S. Pat. No. 6,754,980) or Starov et al. (U. S. Pat. No. 6,228,563) in view of either Denslow et al. (U. S. Pat. No. 3,833,163) or Shoh (U. S. Pat. No. 3,863,826).

Re claims 13 and 15, Starov and Lauerhaas are each cited disclosing a megasonic probe assembly, for cleaning a thin flat substrate comprising: a probe including an elongated rod (104, 204 in Starov and 122 in Lauerhaas) with a lower edge along the length of the rod to be positioned above but closely adjacent to a flat surface of the substrate; a transducer (see col. 8, lines 8-10 in Lauerhaas and col. 11, line 18 in Starov) for translating electrical energy into megasonic vibration that differs from the claims only in the recitation of the heat transfer element positioned between the transducer and a rear end face of the probe; and specifically to claim 15, a coupler positioned between the heat transfer element and the rear end face of the probe, the coupler transmitting the megasonic vibration to the rear end of the probe, the coupler being configured to attenuate the energy transmitted to a portion of said probe. The

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patents to Denslow and Shoh are each cited disclosing in a transducer/probe assembly, the arrangement of providing heat transfer elements (40 in Denslow and 46, 48 in Shoh). It therefore would have been obvious to one having ordinary skill in the art to modify the device of either Lauerhaas or Starov, to include heat transfer means as taught by either Denslow or Shoh, for the purpose of preventing the transfer of heat from the transducer to the probe. Also note that Shoh discloses a coupler (36) positioned between the heat transfer element (48) and the rear end face of the probe (16), the coupler transmitting the vibration to the rear end of the probe, the coupler being configured to attenuate the energy transmitted to a portion of said probe as specifically claimed in claim 15. Re claims 16 and 19, Shoh discloses the pattern (axial) other than radial. To have the coupler elliptical is deemed to be an obvious matter of design as per MPEP 2144.04, IV CHANGES IN SIZE, SHAPE, OR SEQUENCE OF ADDING INGREDIENTS. Re claim 27, Shoh discloses the gap as shown below.



Re claims 30-32, Lauerhaas and Starov disclose the source of liquid and rod shaped transmitter.

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4. Claims 17, 18, 28 and 29 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 2, 4-6, 9 and 10 are allowed.
6. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In Shurtliff, Japan'534, Voic, Pierson, BJapan'402, Japan'145, Balasubramaniam, Japan'714, Lierke et al., Puckett, Manna et al., Japan'661, and WIPO'006, note the heat transfer means.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKIE L. STINSON whose telephone number is (571) 272-1308. The examiner can normally be reached on M-F from 5:30 am to 2:00 pm and some Saturdays from approximately 5:30 am to 11:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr, can be reached on (571) 272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

fls



FRANKIE L. STINSON  
Primary Examiner  
GROUP ART UNIT 1746